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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,438	12/27/2001	John D. Maxfield	5253-05201	1506

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EXAMINER

BLACK, LINH

ART UNIT	PAPER NUMBER
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2167

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/034,438

Applicant(s)

MAXFIELD, JOHN D.

Examiner

LINH BLACK

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This communication is in response to the Applicants' Response dated 4/18/05. Claims 18-42 are pending in the application. Claims 18, 28, 35, and 39 are independent claims.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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1. Claims 18-21, 25-27, 31-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Iyer et al. (USP 6411964).

2. Iyer et al. teach the independent claim 18 by the following:

identifying a first range of key values associated with a first set of rows in a database file – fig. 4, elements 400-404: clustering index; col. 4, lines 5-31; col. 6, lines 6-63; col. 12, lines 8-24.

assigning first values to each of a plurality of free space management parameters associated with the first range of key values – col. 6, lines 6-63; col. 7, lines 11-36; fig. 11, element 1126; col. 17, lines 49-60.

identifying a second range of key values associated with a second set of rows in the database file; assigning second values to each of a plurality of free space management parameters associated with the second range of key values, wherein the second values differ from the first values by at least one free space management parameter value – col. 6, lines 7-62, especially lines 37-44. col. 7, lines 11-36; fig. 11, element 1126; col. 17, lines 49-60 (in which Desired Page D\_P is calculated based on the size of R, page size, desired frequency of free pages, desired percent of free space per page, etc. , and the procedure CLUSTER\_RECORD being called with the RID of R and D\_P as its parameters); col. 22, lines 41-66 (wherein a user has a position (key value) in a key range of the index or relevant subset of the index 110 is scanned; creating DL 800 structures (indices 802 etc.); Correct the composite RID list according to the composite DL 800.

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managing free space associated with the first set of rows in accordance with the first values; and managing free space associated with the second set of rows in accordance with the second values - col. 4, lines 17-31; col. 6, lines 37-62; col. 10, lines 15-63.

3. Iyer et al. anticipated claim 19 by the following:

wherein the first set of rows are associated with a first table in the database file and the second set of rows are associated with a second table in the database file – col. 4, lines 5-43; col. 6, lines 7-25.

4. Iyer et al. anticipated claim 20 by the following:

wherein the first range of key values designate a contiguous range of rows as indicated by the first key value and the second key value – fig. 4, items 400 and 402 (AF); col. 6, lines 53-62.

5. Iyer et al. anticipated claim 21 by the following:

wherein the second range of key values defines a contiguous range of rows as indicated by the third key value and the fourth key value - fig. 4, items 400 and 402 (GM); col. 6, lines 53-62; col. 4, line 63 to col. 5, line 23.

6. Iyer et al. anticipated claim 22 by the following:

wherein one or more of the free space management parameters are selected from the group consisting of “free page value”, “free pages value”, “percent free value”, end of

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key range number of free pages", and "maximum number of rows" – col. 5, lines 24-34; col. 6, lines 26-36; col. 11, lines 8-17; col. 17, lines 49-52; col. 22, lines 41-66.

7. Iyer et al. anticipated claim 25-27 by the following:

wherein the first set of rows in a tablespace comprise rows in a data table or an index;

wherein the second set of rows in a tablespace comprise rows in a data table or an

index; and wherein the first sets of rows and the second set of rows comprise rows from a single table – col. 4, lines 5-42; col. 6, lines 6-62.

8. Iyer et al. anticipated claim 31 by the following:

identify the first range of key values associated with the first set of rows in the database file/table/index comprise instructions to identify rows from a first table – col. 22, lines 38-46.

identify the second range of key values associated with the second set of rows in the database file/table/index comprise instructions to identify rows from a second table – col. 5, lines 19-43; col. 6, lines 47-62.

9. Iyer et al. anticipated claim 32 by the following:

wherein the first table comprises a data table or an index and the second table comprises a data table or an index – col. 3, line 61 to col. 4, line 31.

10. Iyer et al. anticipated claim 33 by the following:

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wherein the database file is a page set / partition – fig. 1, items 104, 110; col. 3, line 61 to col. 4, line 31.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iyer et al. (USP 6411964), and further in view of Eberhard et al. (USP 6003022).

12. As per claims 23-24, 35, Iyer et al. does not explicitly suggest: wherein the act of assigning first values to each of a plurality of free space management parameters comprises accepting user input for at least one of the first values, second values. However, Eberhard et al. teach database execution cost and system performance estimator – the abstract. Eberhard et al. teach accepting user input for at least one of the first values – col. 7, lines 35 to col. 8, line 5; fig. 2c, item 222 (table definition in 2c allows user to define/assign pctfree for each table, in this example table STOCK. Users have the ability to assign different pctfree to different tables). Thus,

it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Iyer et al.'s teaching with Eberhard et al.'s teaching in order to allow more flexible utilization of free spaces, which is more appropriately changed to different usage environments.

13. Claims 28-30 and 34, claims the same subject matter as of claims 18-27, 31-33, and are rejected based on the same rejections as of claims 18-27, 31-33.

14. As per claim 36, Iyer et al. teach wherein the first object is selected from the group consisting of a page set, a table within a database file, and a plurality of tables in a database file - fig. 1, items 104, 110; col. 3, line 61 to col. 4, line 31.

15. As per claim 37, Iyer et al. teach assigning first values to each of a plurality of free space management parameters associated with the first range of key values for the first set of rows managing free space associated with the first set of rows in according with the second values - fig. 4, items 400 and 402 (AF); col. 6, lines 53-62; col. 5, lines 19-43; col. 6, lines 47-62; col. 22, lines 38-46.

16. As per claim 38, Iyer et al. teach assigning second values to each of a plurality of free space management parameters associated with the second range of key values for the second set of rows, wherein the second values differ from the first values by at least one free space management parameter value managing free space



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associated with the second set of rows in accordance with the second values - fig. 4, items 400 and 402 (GM); col. 6, lines 53-62; col. 4, line 63 to col. 5, line 23.

17. Claims 39-42 claim the same subject matter as of claims 35-38, and are rejected based on the same rejections as of claims 35-38.

### ***Response to Arguments***

Applicant's arguments filed 4/18/05 have been fully considered but they are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., non-uniform distribution of free space) are not recited in the rejected claim(s) 18. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

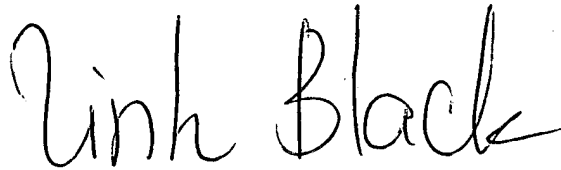
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINH BLACK whose telephone number is 571-272-4106. The examiner can normally be reached on 8am - 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN BREENE can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LINH BLACK  
Examiner  
Art Unit 2167

June 27, 2005



Primary Examiner